

Information and Communication Technologies in Times of COVID-19

Subjects: Social Work

Contributor: Diana Valero, Ana Romea, Carmen Elboj

People with mental health problems have considerably suffered during the pandemic because, for many of them, accessing different information resources through telematic means proved to be a great difficulty in their everyday lives.

Keywords: COVID-19 ; pandemic ; health inequalities ; social intervention ; ICT ; social work

1. Introduction

The COVID-19 pandemic is one of the worst in the world in memory. It has had obvious consequences on the entire population's physical health but, at the same time, is also causing long-term consequences for mental health ^{[1][2][3]}. For those who already had a mental illness, the exceptional measures taken disproportionately especially affect the most vulnerable groups ^{[4][5]}.

Some of the preventive measures imposed to prevent the spread of this disease, such as social distancing, recommendation or prohibition of large gatherings of people, and above all, home confinements, are those that most strongly impact people's mental health ^[3]. It was indicated that these health crisis situations can lead to isolation for the entire population, decrease physical and mental activity, increase recursive thoughts, aggravate already existing mental illnesses, and augment stress and anxiety disorder that therefore bring about a growing demand for mental health services ^{[6][7][8][9]}.

However, one resilient aspect is how information and communication technologies (ICT) have become allies during this pandemic by favoring social contact, facilitating shopping without leaving home, generating opportunities for leisure and entertainment, allowing telework and tele-education, and transmitting information ^{[10][11]}. Between 2019 and 2020, the time that people spent every day using the Internet on any device increased by 4%, and the use of social networks rose by 13.2% ^[12]. ICT have also been applied to numerous fields, including medicine and mental health, and have proven to be a helpful resource that is demanded by professionals and patients alike ^[13]. However, not all the population has benefited equally from ICT. One of the situations of unique vulnerability is mental health patients. They have faced barriers in accessing ICT, which can lead to double social exclusion due to their health condition and their health difficulties in such access.

2. Access to Information in Times of COVID-19

It was showed that ICT can facilitate people with mental health problems ^[14]. For example, ICT are helpful for improving these patients' cognitive capacity ^{[15][16]}, they can be applied to the educational field ^[17], and they have positive effects on facilitating these patients' social and leisure activity ^{[18][19]}. Today, ICT have become an indispensable element in people's leisure time because their use may already constitute a hobby, and they allow people to connect to hobbies of all kinds ^[20]. Furthermore, connecting people with mental illness to ICT is positive ^[21], and digital social work can potentially implement innovative mental health interventions ^{[22][23][24]}.

However, some barriers prevent this group from accessing the use and practice of ICT on equal terms: associated stereotypes ^[25], the course of their disease itself ^[26], lack of training in digital skills ^[27], costs of digital technologies, and no showing interest in using them ^[28]. It is essential to point out that some barriers that hinder ICT access for people with mental illness can be overcome with appropriate support and adaptations ^[29].

During this pandemic, the vital role that ICT played in accessing information for the entire population was evidenced ^[3], including, of course, in the mental health field. Many are investigating the use, benefit, and impact of ICT during the pandemic. For example, messaging apps have been crucial for helping people deal with mental health issues, especially

those related to isolation and stress. With them, they have been able to receive information about COVID-19. They are also a good option because their use does not require high digital training, and thus, vulnerable groups can employ them [30][31]. Furthermore, official and social organizations often resort to this platform to send messages with reliable information [32][33].

Social networks have also played a significant role for this group during the pandemic, but their use in mental health may imply certain controversy. It was suggested two positive aspects of social networks for users with mental health problems: some people with mental health problems have utilized social networks to communicate and make their experiences visible, and handling social networks can be an excellent way to face social isolation [34]. However, the idealized image that is often projected on social networks can negatively affect those who compare themselves to others, which increases stress and anxiety [35]. Finally, hoaxes of all kinds can be quickly spread via social media [36][37].

Exposure to the mass media during COVID-19 can increase symptoms of depression, anxiety, and hypochondria, especially in those groups that were already vulnerable to start with [38], including, of course, users of digital media.

Many people have resorted to the Internet and social networks to seek information and to feel specific security. Unfortunately, a considerable increase in hoaxes and deliberate misinformation has made people's mental health worse [39][40], which has evidently worsened the mental health of people with a previous mental pathology [41][42].

According to data, Internet users voice many concerns about fake news: 56% of adults aged over 18 years are uneasy about distinguishing between the real and false news they receive over the Internet, and this percentage rises to 65.1% in Spain [12]. Therefore, administrators must make commitments to provide reliable information to prevent this misinformation, especially for this vulnerable group [43]. For this purpose, health organizations and the third sector of social action have been crucial in preparing documentation and distributing it to its users [44][45].

Basically, insofar as ICT have been used as a means to report the pandemic, a direct and intense relation between inequalities in accessing digital technologies and COVID-19 exposure has emerged [46]. This aspect is especially significant for people with mental health problems because, in some cases, the medication they take for their illness affects their cognitive abilities, which makes people more vulnerable to hoaxes [47]. This is why it is essential to establish successful strategies when developing programs and policies that allow the population in general, and people with mental health problems in particular, to access information to develop their digital and communicative competence.

Mental health patients have been an especially vulnerable population during the COVID-19 pandemic due to isolation measures, while limitations for interactions can negatively influence their care and care processes. With these confinements, care has been generally adapted for its provision through telematics means, and telecare has been vital for mental health patients [37]. Furthermore, telecare reinforces vulnerable groups' access to ICT, which can help to reduce the impact of COVID and exposure to the risks of this disease [46]. Moreover, it positively affects their mental health [21] and provides educational and leisure opportunities [29]. Hence, contributing to develop patients' digital competence is essential, and as part of it, access to information plays a preponderant role.

References

1. Assari, S.; Habibzadeh, P. The COVID-19 Emergency Response Should Include a Mental Health Component. *Arch. Iran. Med.* 2020, 23, 281–282.
2. Ransing, R.; Adiukwu, F.; Pereira-Sanchez, V.; Ramalho, R.; Orsolini, L.; Teixeira, A.L.S.; Gonzalez-Diaz, J.M.; Pinto da Costa, M.; Soler-Vidal, J.; Bytyçi, D.G.; et al. Mental Health Interventions during the COVID-19 Pandemic: A Conceptual Framework by Early Career Psychiatrists. *Asian J. Psychiatry* 2020, 51, 102085.
3. Ammar, A.; Trabelsi, K.; Brach, M.; Chtourou, H.; Boukhris, O.; Masmoudi, L.; Bouaziz, B.; Bentlage, E.; How, D.; Ahmed, M.; et al. Effects of Home Confinement on Mental Health and Lifestyle Behaviours during the COVID-19 Outbreak: Insights from the ECLB-COVID19 Multicentre Study. *Biol. Sport* 2021, 38, 9–21.
4. Seifert, A.; Cotten, S.R.; Xie, B. A Double Burden of Exclusion? Digital and Social Exclusion of Older Adults in Times of COVID-19. *J. Gerontol. Ser. B* 2021, 76, e99–e103.
5. Conte, G.; Baglioni, V.; Valente, F.; Chiarotti, F.; Cardona, F. Adverse Mental Health Impact of the COVID-19 Lockdown in Individuals with Tourette Syndrome in Italy: An Online Survey. *Front. Psychiatry* 2020, 11, 1325.
6. Mohammed, A.; Sheikh, T.L.; Poggensee, G.; Nguku, P.; Olayinka, A.; Ohuabunwo, C.; Eaton, J. Mental Health in Emergency Response: Lessons from Ebola. *Lancet Psychiatry* 2015, 2, 955–957.

7. Mak, I.W.C.; Chu, C.M.; Pan, P.C.; Yiu, M.G.C.; Chan, V.L. Long-Term Psychiatric Morbidities among SARS Survivors. *Gen. Hosp. Psychiatry* 2009, 31, 318–326.
8. Figueroa, C.A.; Aguilera, A. The Need for a Mental Health Technology Revolution in the COVID-19 Pandemic. *Front. Psychiatry* 2020, 11, 523.
9. Marston, H.R.; Ivan, L.; Fernández-Ardèvol, M.; Rosales Climent, A.; Gómez-León, M.; Blanche, T.D.; Earle, S.; Ko, P.-C.; Colas, S.; Bilir, B.; et al. COVID-19: Technology, Social Connections, Loneliness, and Leisure Activities: An International Study Protocol. *Front. Sociol.* 2020, 5, 89.
10. Shah, S.G.S.; Nogueras, D.; Woerden, H.C.; van Kiparoglou, V. The COVID-19 Pandemic: A Pandemic of Lockdown Loneliness and the Role of Digital Technology. *J. Med. Internet Res.* 2020, 22, e22287.
11. Bastoni, S.; Wrede, C.; Ammar, A.; Braakman-Jansen, A.; Sanderman, R.; Gaggioli, A.; Trabelsi, K.; Masmoudi, L.; Boukhris, O.; Glenn, J.M.; et al. Psychosocial Effects and Use of Communication Technologies during Home Confinement in the First Wave of the COVID-19 Pandemic in Italy and The Netherlands. *Int. J. Environ. Res. Public Health* 2021, 18, 2619.
12. Digital2021_GlobalReport_en.Pdf. Available online: https://hootsuite.widen.net/s/zcdrtxwczn/digital2021_globalreport_en (accessed on 13 September 2021).
13. Hao, F.; Tan, W.; Jiang, L.; Zhang, L.; Zhao, X.; Zou, Y.; Hu, Y.; Luo, X.; Jiang, X.; McIntyre, R.S.; et al. Do Psychiatric Patients Experience More Psychiatric Symptoms during COVID-19 Pandemic and Lockdown? A Case-Control Study with Service and Research Implications for Immunopsychiatry. *Brain Behav. Immun.* 2020, 87, 100–106.
14. Stephens-Reicher, J.; Metcalf, A.; Blanchard, M.; Mangan, C.; Burns, J. Reaching the Hard-To-Reach: How Information Communication Technologies Can Reach Young People at Greater Risk of Mental Health Difficulties. *Australas. Psychiatry* 2011, 19, S58–S61.
15. Galante, E.; Venturini, G.; Fiaccadori, C. Computer-Based Cognitive Intervention for Dementia: Preliminary Results of a Randomized Clinical Trial. *G Ital. Med. Lav. Erg.* 2007, 29, B26–B32.
16. Spector, A.; Thorgrimsen, L.; Woods, B.; Royan, L.; Davies, S.; Butterworth, M.; Orrell, M. Efficacy of an Evidence-Based Cognitive Stimulation Therapy Programme for People with Dementia: Randomised Controlled Trial. *Br. J. Psychiatry* 2003, 183, 248–254.
17. Maraschin, C.; Lopes da Rocha, M.; Kastrup, V. ICT Intervention-Research in a Mental Health Clinic in Brazil. *Rev. Polis E Psique* 2015, 5, 94–118.
18. Smith, S.K.; Mountain, G.A. New Forms of Information and Communication Technology (ICT) and the Potential to Facilitate Social and Leisure Activity for People Living with Dementia. *Int. J. Comput. Healthc.* 2012, 1, 332–345.
19. Schmidt, U.; Wykes, T. E-Mental Health—A Land of Unlimited Possibilities. *J. Ment. Health* 2012, 21, 327–331.
20. Genoe, R.; Kulczycki, C.; Marston, H.; Freeman, S.; Musselwhite, C.; Rutherford, H. E-Leisure and Older Adults: Findings from an International Exploratory Study. *Ther. Recreat. J.* 2018, 52, 1–18.
21. Costa, M.; Pavlo, A.; Reis, G.; Ponte, K.; Davidson, L. COVID-19 Concerns Among Persons with Mental Illness. *Psychiatr. Serv.* 2020, 71, 1188–1190.
22. West, D.; Heath, D. Theoretical pathways to the future: Globalization, ICT and social work theory and practice. *J. Soc. Work* 2011, 11, 209–221.
23. Reamer, F.G. Social Work in a Digital Age: Ethical and Risk Management Challenges. *Soc. Work* 2013, 58, 163–172.
24. Bryant, L.; Garnham, B.; Tedmanson, D.; Diamandi, S. Tele-Social Work and Mental Health in Rural and Remote Communities in Australia. *Int. Soc. Work* 2018, 61, 143–155.
25. Brittain, K.; Corner, L.; Robinson, L.; Bond, J. Ageing in Place and Technologies of Place: The Lived Experience of People with Dementia in Changing Social, Physical and Technological Environments. *Sociol. Health Illn.* 2010, 32, 272–287.
26. Mitseva, A.; Peterson, C.; Dafoulas, G.; Efthymiou, A.; Abildgaard, A.; Bellini, S. ISISEMD Evaluation Framework for Impact Assessment of ICT Pilot Services for Elderly with Mild Dementia, Living in the Community and Their Relatives. In *Proceedings of the Networking and Electronic Commerce Research Conference (NAEC 2010)* American Telecommunications Systems Management Association, Riva Del Garda, Italy, 7–10 October 2010; Gavish, B., Ed.; ATSM: Dallas, TX, USA, 2010.
27. Fonseca, A.; Osma, J. Using Information and Communication Technologies (ICT) for Mental Health Prevention and Treatment. *Int. J. Environ. Res. Public Health* 2021, 18, 461.
28. Czaja, S.J.; Lee, C.C. The Impact of Aging on Access to Technology. *Univ. Access Inf. Soc.* 2006, 5, 341.

29. Sheehan, R.; Hassiotis, A. Digital Mental Health and Intellectual Disabilities: State of the Evidence and Future Directions. *Evid. Based Ment. Health* 2017, 20, 107–111.
30. Aguilera, A.; Berridge, C. Feedback from a Text Messaging Intervention for Depression: Benefits, Drawbacks, and Cultural Differences. *JMIR Mhealth Uhealth* 2014, 2, e46.
31. Torous, J.; Myrick, K.J.; Rauseo-Ricupero, N.; Firth, J. Digital Mental Health and COVID-19: Using Technology Today to Accelerate the Curve on Access and Quality Tomorrow. *JMIR Ment. Health* 2020, 7, e18848.
32. Berrouguet, S.; Baca-García, E.; Brandt, S.; Walter, M.; Courtet, P. Fundamentals for Future Mobile-Health (MHealth): A Systematic Review of Mobile Phone and Web-Based Text Messaging in Mental Health. *J. Med. Internet Res.* 2016, 18, e5066.
33. Ramírez, F.B.; Misol, R.C.; del Carmen Fernández Alonso, M.; Tizón, J.L. Pandemia de la COVID-19 y salud mental: Reflexiones iniciales desde la atención primaria de salud española. *Atención Primaria* 2021, 53, 89–101.
34. Naslund, J.A.; Aschbrenner, K.A.; McHugo, G.J.; Unützer, J.; Marsch, L.A.; Bartels, S.J. Exploring Opportunities to Support Mental Health Care Using Social Media: A Survey of Social Media Users with Mental Illness. *Early Interv. Psychiatry* 2019, 13, 405–413.
35. Reer, F.; Tang, W.Y.; Quandt, T. Psychosocial Well-Being and Social Media Engagement: The Mediating Roles of Social Comparison Orientation and Fear of Missing Out. *New Med. Soc.* 2019, 21, 1486–1505.
36. Primack, B.A.; Shensa, A.; Escobar-Viera, C.G.; Barrett, E.L.; Sidani, J.E.; Colditz, J.B.; James, A.E. Use of Multiple Social Media Platforms and Symptoms of Depression and Anxiety: A Nationally-Representative Study among U.S. Young Adults. *Comput. Hum. Behav.* 2017, 69, 1–9.
37. Gao, J.; Zheng, P.; Jia, Y.; Chen, H.; Mao, Y.; Chen, S.; Wang, Y.; Fu, H.; Dai, J. Mental Health Problems and Social Media Exposure during COVID-19 Outbreak. *PLoS ONE* 2020, 15, e0231924.
38. Fiorenzato, E.; Zabberoni, S.; Costa, A.; Cona, G. Cognitive and Mental Health Changes and Their Vulnerability Factors Related to COVID-19 Lockdown in Italy. *PLoS ONE* 2021, 16, e0246204.
39. Chatterjee, S.S.; Barikar, C.M.; Mukherjee, A. Impact of COVID-19 Pandemic on Pre-Existing Mental Health Problems. *Asian J. Psychiatry* 2020, 51, 102071.
40. Atehortua, N.A.; Patino, S. COVID-19, a Tale of Two Pandemics: Novel Coronavirus and Fake News Messaging. *Health Promot. Int.* 2021, 36, 524–534.
41. Madsen, M.M.; Dines, D.; Hieronymus, F. Optimizing Psychiatric Care during the COVID-19 Pandemic. *Acta Psychiatr. Scand.* 2020, 142, 70–71.
42. Bratu, S. The Fake News Sociology of COVID-19 Pandemic Fear: Dangerously Inaccurate Beliefs, Emotional Contagion, and Conspiracy Ideation. *Linguist. Philos. Investig.* 2020, 19, 128–135.
43. Jung, S.J.; Jun, J.Y. Mental Health and Psychological Intervention Amid COVID-19 Outbreak: Perspectives from South Korea. *Yonsei Med. J.* 2020, 61, 271–272.
44. Sheares, G.; Miklencicova, R.; Grupac, M. The Viral Power of Fake News: Subjective Social Insecurity, COVID-19 Damaging Misinformation, and Baseless Conspiracy Theories. *Linguist. Philos. Investig.* 2020, 19, 121–128.
45. O'Connor, C.; Murphy, M. Going Viral: Doctors Must Tackle Fake News in the COVID-19 Pandemic. *BMJ* 2020, 369, m1587.
46. Robinson, L.; Schulz, J.; Khilnani, A.; Ono, H.; Cotten, S.R.; McClain, N.; Levine, L.; Chen, W.; Huang, G.; Casilli, A.A.; et al. Digital Inequalities in Time of Pandemic: COVID-19 Exposure Risk Profiles and New Forms of Vulnerability. *First Monday* 2020, 25.
47. Brashier, N.M.; Schacter, D.L. Aging in an Era of Fake News. *Curr. Dir. Psychol. Sci.* 2020, 29, 316–323.